

NONPROVISIONAL APPLICATION FOR LETTERS PATENT

UNITED STATES OF AMERICA

5 Be it known that I, Ms. Pamela K. Hardison, residing at 2804  
Brisbane Court, Marietta, GA 30062, a citizen of the United  
States of America, have invented certain new and useful  
improvements in a

10 **DEVICE AND METHOD FOR SUPPORTING WOUND DRAINAGE SYSTEMS**

of which the following is a specification:

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**DEVICE AND METHOD FOR SUPPORTING WOUND DRAINAGE SYSTEMS****TECHNICAL FIELD**

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The present invention relates generally to medical devices, and more specifically to an apparatus and method for retaining wound drainage systems. The present invention is particularly suitable for retaining or supporting wound drainage systems, such as, for exemplary purposes only, HEMOVAC® or JACKSON PRATT® drains, comfortably and securely on a person without exerting painful forces on the drainage outlet in the body.

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**BACKGROUND OF THE INVENTION**

Current medical practice commonly provides for drainage of surgical wounds, wherein the drainage may be assisted by providing a slight vacuum to a drainage tube inserted through an incision into the body. Typically, a drainage outlet tube is inserted into the incision, wherein the vacuum device is connected to the outlet tube via plastic tubing. Although the plastic tubing is flexible, it must be relatively rigid to

avoid collapsing under the negative pressure provided by the vacuum device, and to avoid kinking as the patient moves. Additionally, the vacuum device may also be utilized for draining an internal cavity or organ of the body, such as  
5 draining the bladder through a drainage tube inserted through the lower abdomen and through the bladder wall.

Although effective in wound drainage, such devices present certain complications. Specifically, any significant  
10 forces exerted on the outlet tube extending from the wound, or through the skin, can cause considerable pain to the patient, wherein such forces may be attributed to abrupt movement of the plastic tubing and drainage connected thereto. However, even if the plastic tubing connected to the outlet tube is  
15 taped to the patient's body, conventional devices for supporting the tubing drainage container to the patient cause discomfort to the patient, as such devices typically have bumps, knots or protrusions therein that bear against the patient's body. Additionally, since the patient is generally  
20 encouraged to become mobile soon after surgery, the plastic tubing is often times subjected to forces that may cause painful movements of the outlet tube within the wound.

Unfortunately, the pain encountered often discourages the patient from engaging in any desired movement.

Although various devices and methods are available for keeping objects close to a person while providing support therefor, such objects present obvious disadvantages that render their use/employ as support devices for wound drainage systems highly impractical and problematic.

For instance, many devices, such as, for exemplary purposes only, straps or belts, support objects of temporary need, such as cameras or binoculars. Since such temporarily-used objects are utilized for short periods and are not usually utilized after surgery, there has been little reason to ensure that their carrying devices are particularly comfortable, and further, such carrying devices do not provide the requisite support necessary for medical appliances.

Many straps worn about the neck or body often require closure methods, such as knots or buckles that, due to their bulkiness, are uncomfortable to the wearer, particularly for patients who must wear their wound drainage system for an extensive period of time.

Other devices, such as harnesses, are highly complex, or possess straps with special fixtures attached to thereto, thus making such devices difficult to clean, and more susceptible  
5 to carrying infectious organisms.

While some or all of the above-referenced patents may well be utilized for supporting wound drainage systems, they do not adequately provide to the wearer a comfortable means  
10 for supporting the wound drainage system, and are overly complicated.

Therefore, it is readily apparent that there is a need for a device and method for supporting wound drainage systems,  
15 wherein the device provides the patient with comfortable support for the wound drainage system.

#### **BRIEF SUMMARY OF THE INVENTION**

20 Briefly described, in a preferred embodiment, the present invention overcomes the above-mentioned disadvantages and meets the recognized need for such a device by providing a method and apparatus for holding wound drainage systems

securely in position, while at the same time providing comfort to the wearer.

According to its major aspects and broadly stated, the present invention in its preferred embodiment is a device and method for supporting a wound drainage system wherein the device comprises a spliced rope. More specifically, the present invention is a device and method having a rope that passes around the neck of the wearer, wherein the rope has a splice to join its ends, thereby forming the rope into a circle. The splice preferably has the same diameter as the rope, and forms an even joint that does not irritate the wearer. The structural simplicity of the rope readily permits cleaning for reuse, or may be replaced at minimal cost.

Accordingly, a feature and advantage of the present invention is its ability to securely retain a wound drainage device to the body of the wearer.

A further feature and advantage of the present invention is its ability to be utilized with a variety of different wound drainage systems or other medical appliances to provide support therefor.

Another feature and advantage of the present invention is its ability to be positioned in different locations as the wearer desires.

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Yet another feature and advantage of the present invention is its ease of manufacture and low cost of production.

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Still a further feature and advantage of the present invention is that it can readily fit under a wearer's clothing.

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Still another feature and advantage of the present invention is that it can be readily cleaned.

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These and other features and advantages of the present invention will become more apparent to one skilled in the art from the following description and claims when read in light of the accompanying drawings.

**BRIEF DESCRIPTION OF THE DRAWINGS**

Having thus described the invention in general terms, the present invention will be better understood by reading the Detailed Description of the Preferred and Selected Alternate Embodiments with reference to the accompanying drawing figures, which are not necessarily drawn to scale, and in which like reference numerals denote similar structures and refer to like elements throughout, and in which:

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**FIG. 1** is a perspective view of a device according to a preferred embodiment of the present invention; and

**FIG. 2** is a perspective view of a device according to a preferred embodiment of the present invention, shown in use.

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**FIG. 3** is a perspective view of a device according to an alternate embodiment of the present invention, shown in use.

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**DETAILED DESCRIPTION OF THE PREFERRED AND SELECTED ALTERNATE**  
**EMBODIMENTS**

In describing the preferred embodiment as illustrated in  
5 the Figures, and selected alternate embodiments of the present  
invention, specific terminology is employed for the sake of  
clarity. The invention, however, is not intended to be  
limited to the specific terminology so selected, and it is to  
be understood that each specific element includes all  
10 technical equivalents that operate in a similar manner to  
accomplish similar functions.

Broadly stated, the present invention is a support and  
retention device for use in holding medical appliances,  
15 preferably wound drainage systems. The invention is  
preferably a soft flexible length of material, such as for  
exemplary purposes only, a rope, string, cord, tube or chain  
formed into a circle, spliced so as to complete the circle in  
a fashion that does not increase the diameter of the spliced  
20 area, and preferably utilized by the wearer by placing about  
the neck. The lower portion of the length of material is  
preferably gathered together to form a doubled length and held  
together by clasping means. A medical appliance is preferably

then secured to the present invention by fastening means, such as, for exemplary purposes only, a safety pin. The medical appliance may then be positioned about the wearer's torso in a comfortable location.

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Referring now to **FIG. 1**, apparatus **10** is preferably a length of material **20**, for exemplary purposes only, of rope, string, cord, tube or chain, formed into a preferably continuous circuit, wherein length of material **20** is preferably fabricated from nylon. Although soft nylon is the preferred material, other soft materials could be utilized, such as, for exemplary purposes only, synthetic or natural fibers, wire or tubing. Length of material **20** has ends **22** and **24** fixed together to form splice **30**. Preferably, splice **30** is smooth and has substantially the same diameter **32** as the diameter **26** of length of material **20**.

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Length of material **20** is preferably formed into a shape such that it creates upper loop **40**, bottom **60** and lower doubled section **50**, wherein lower doubled section **50** preferably comprises segments **52** and **54**, and wherein segments **52** and **54** are preferably located proximate and parallel one another. A clasp or a plurality of clasps **70** preferably

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gather together and secure segments **52** and **54** of length of material **20** to form lower doubled section **50**, thereby retaining segments **52** and **54** together.

5        Now referring to **FIG. 2**, apparatus **10** is preferably utilized to secure medical devices, such as, for exemplary purposes only, a JACKSON PRATT® drain **JP**. Upper loop **40** is preferably placed over the head **D** of patient **P**, such that piece **90** preferably passes behind neck **N** of patient **P**.  
10    Portions **110a** and **110b** preferably proceed forward of neck **N**, passing in front of, and proximate to, shoulders **S** of patient **P** before continuing down torso **R** of patient **P**. As such, doubled section **50** preferably drapes down torso **R** of patient **P**.

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      In such a configuration, JACKSON PRATT® drain **JP** is preferably removably fastened to lower doubled section **50** of apparatus **10**, preferably via fastening means **80**, such as, for exemplary purposes only, a safety pin, wherein tube **T** may  
20    extend from incision **I** of patient **P** to JACKSON PRATT® drain **JP**. The location of fastening means **80** may be raised or lowered as patient **P** desires. Lower doubled section **50** is then preferably positioned according to the needs and comfort

of patient **P**. It should be recognized that because splice **30** is smooth, apparatus **10** does not have a large bulge that would provide discomfort to patient **P**.

5        It is envisioned in an alternate embodiment of the present invention that fastening means **80** could be a hook-and-loop fastener, or hook portion thereof. In lieu of fastening means **80**, it is also possible to utilize clasp **70** for removably attaching JACKSON PRATT® drain **JP** to the device of  
10 the present invention.

It is envisioned in an alternate embodiment of the present invention that fastening means **80** could be a snap-button, ties, clips or clamps.

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It is further envisioned in an alternate embodiment of the present invention that length of material **20** could comprise a chain of linked elements, such as a chain-like rope.

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It is contemplated in an alternate embodiment that apparatus **10** could be formed from a soft tube, wherein the first end and second end thereof may be joined together by a

dowel, and wherein fastening means **80** could comprise a clamp, such as, for exemplary purposes only, a circumferential clamp attached to lower doubled section **50**.

5        In an additional contemplated alternative embodiment, the present invention could be secured to the clothing of patient **P** by a second fastening means.

10        In an alternate embodiment of the present invention as depicted in **FIG. 3**, apparatus **100** is formed as length of material **120**, wherein length of material **120** is doubled along the entire length of apparatus **100**, such that segments **152** and **154** extend the entire length of apparatus **10**. In this embodiment, apparatus **100** is worn over and around neck **N**,  
15        wherein ends **130a** and **130b** pass proximate shoulders **S** of patient **P**, lying on either side of torso **R**. In such fashion, apparatus **100** is suited to support more than one wound drainage appliance, such as, for exemplary purposes only, two or more JACKSON PRATT® drains **JP**. Wound drainage appliances  
20        that are utilized for wounds on rear of torso **R** may also thus be carried by apparatus **100**.

In a further alternate embodiment, the present invention could include a second rope or strap attached thereto, wherein the second rope or strap could further secure apparatus **10** to patient **P** by encircling torso **R** of patient **P**.

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In another alternate embodiment, length of material **20** of the present invention could be resilient, that is, formed from elastic or resilient member material to absorb impact of movement.

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In a yet another alternate embodiment, fastening means **80** could be slidably adjustable.

In still another alternate embodiment, apparatus **10** could  
15 be integrally formed as a component of available wound drainage systems.

It is further envisioned that the present invention could be used to support other medical appliances, such as, for  
20 exemplary purposes only, colostomy bags, intravenous bags, or other similar structures requiring support in much the same fashion as wound drainage systems.

It is also envisioned that the present invention might be formed without a joint. In this embodiment, apparatus **10** has upper loop **40**, lower doubled section **50** and bottom **60**, wherein ends **22** and **24** may form bottom **60**.

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In another embodiment, upper loop **40** is formed by joining end **22** to length of material **20** at a point distant from end **24**, such that end **24** hangs as a single segment to which fastening means **80** can be attached.

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In yet another envisioned embodiment of the present invention, suitable where comfort of a smooth splice is not required, apparatus **10** is formed without a smooth splice, wherein ends **22** and **24** may be tied, or secured together in another suitable fashion.

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The foregoing description and drawings comprise illustrative embodiments of the present invention. Having thus described exemplary embodiments of the present invention, it should be noted by those skilled in the art that the within disclosures are exemplary only, and that various other alternatives, adaptations, and modifications may be made within the scope of the present invention. Merely listing the

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steps of the method in a certain order does not constitute any limitation on the order of the steps of the method. Many modifications and other embodiments of the invention will come to mind to one skilled in the art to which this invention  
5 pertains having the benefit of the teachings presented in the foregoing descriptions and the associated drawings. Therefore, it is to be understood that the invention is not to be limited to the specific embodiments disclosed and that modifications and other embodiments are intended to be  
10 included within the scope of the appended claims. Although specific terms are employed herein, they are utilized in a generic and descriptive sense only and not for purposes of limitation. Accordingly, the present invention is not limited to the specific embodiments illustrated herein, but is limited  
15 only by the following claims.